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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/885,302	06/20/2001	Mingzhong Ding	S01.12-0709/STL 9808	2673
7590 07/23/2004 Westman Champlin & Kelley Suite 1600-International Centre 900 Second Avenue South Minneapolis, MN 55402			EXAMINER SNIEZEK, ANDREW L	
			ART UNIT 2651	PAPER NUMBER

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/885,302	Applicant(s) DING ET AL.	
	Examiner Andrew L. Sniezek	Art Unit 2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-20 is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

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Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/20/01, 9/3/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements filed 6/20/01 and 9/3/03 have been considered. A copy of document AL cited 6/20/01 was not provided and therefor has not been considered.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed track pitches with respect to head widths (for example claim 2) and servo sectors with a pitch "at least as large as the largest pitch of the data storage tracks" claims 3, 4, 6 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the

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changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Albrecht et al., US005999351A.

Albrecht et al. teaches a storage device that includes a plurality of head/surface combinations (figure 3) with the head having a width that defines a maximum track density between adjacent tracks (column 4, line 66 – column 5, line 22) and a means that optimizes data track density of each surface comprised of data storage tracks at a pitch define by the width of the confronting head (column 4, line 66 – column 5, line 22) as set forth in claims 1-2. Re claim 4: as seen from figure 4b the tracks are concentric and radially positioned at the pitch.

5. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Golowka et al. US006052250A

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Golowka et al. teaches a disk arrangement that uses a plurality of head/surface combinations (figure 2) which have head widths that maximize track densities, i.e. for the arrangement as described the track density is maximized satisfying the limitations of claims 1-2. It is noted that applicant does not set forth heads having different widths, therefore assuming the widths of each of the heads in Golowka et al. are the same, then the track density formed by each head would be at a maximum. Re claims 3 and 5: column 4, lines 41-43 indicates that the pitch of the servo is the same as the pitch of the data track. Re claim 4: as seen from figure 3, the tracks are concentric

Allowable Subject Matter

6. Claims 6-19 are allowed.
7. The following is a statement of reasons for the indication of allowable subject matter: The claimed process of optimizing track densities in a data storage apparatus that comprises the combination of steps a – f as set forth is neither taught by nor an obvious variation of the art of record. The claimed process as set forth in claim 18 that computes data track density based on a retrieved value and the servo band density as set forth is neither taught by nor an obvious variation of the art of record. In the arrangement of Golowka et al. both data track pitch and servo track pitch are retrieved to form a pitch ratio.

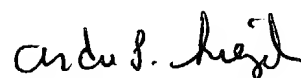
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew L. Snizek whose telephone number is 703-308-1602. The examiner can normally be reached on Mon.-Fri..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh N Tran can be reached on 703-305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Andrew L. Sniezek
Primary Examiner
Art Unit 2651

A.L.S.
7/22/04

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